WHAT IS CLAIMED IS:

1. A zoom lens system consisting of, in order from an object:

a first lens group having positive refractive power;

a second lens group having negative refractive power;

a third lens group having positive refractive power; and

a fourth lens group having positive refractive power;

zooming being carried out by moving the second lens group and the third lens group along the optical axis;

the first lens group consisting of, in order from the object,

a front lens group of the first lens group having positive refractive power;

a middle lens group of the first lens group having negative refractive power; and

a rear lens group of the first lens group having positive refractive power;

in the fourth lens group, there being three lens portions with refractive power that are, in order from the object;

a front lens group of the fourth lens group having positive refractive power;

a middle lens group of the fourth lens group having negative refractive power; and

a rear lens group of the fourth lens group having positive refractive power;

the front lens group of the first lens group comprising two positive lens elements and a negative lens element;

the middle lens group of the first lens group comprising a positive element and a negative lens element;

the rear lens group of the first lens group comprising a positive lens element;

focusing to a close object being carried out by moving the middle lens group of the first lens group along the optical axis;

the front lens group of the fourth lens group comprising a positive element and a negative lens element;

the middle lens group of the fourth lens group comprising a positive element and two negative lens elements;

the rear lens group of the fourth lens group comprising a positive lens element and a negative lens element;

imaging position being varied by shifting the middle lens group of the fourth lens group perpendicularly to the optical axis; and

the following conditional expression being satisfied:

$$2.5 < |(F1f \times F1r234t)/(F1m \times \Phi 1)| < 5.0$$

where $\Phi 1$ denotes the maximum effective diameter of the first lens group, F1f denotes the focal length of the front lens group of the first lens group, F1m denotes the focal length of the middle lens group of the first lens group, F1r234t denotes the combined focal length of the rear lens group of the first lens group, the second lens group, the third lens group, and the fourth lens group in the telephoto end state.

2. The zoom lens system according to claim 1, wherein the following conditional expressions are satisfied:

$$2.5 < |(F1f \times F4)/(F1mr23t \times \Phi 1)| < 5.0$$

$$2.5 < |(F1 \times F4)/(F23t \times \Phi 1)| < 5.0$$

$$2.5 < |(F1f \times F1r \times F4)/(F1m \times F23t \times \Phi 1)| < 5.0$$

$$0.7 < |(F4 \times F4m)/(F4f \times F4r)| < 1.3$$

where F1 denotes the focal length of the first lens group, F23t denotes the combined focal length of the second lens group and the third lens group in the telephoto end state, F4 denotes the focal length of the fourth lens group, F1r denotes the focal length of the rear lens group of the first lens group, F1mr23t denotes the combined focal length of the middle lens group of the first lens group, the rear

lens group of the first lens group, the second lens group and the third lens group in the telephoto end state, F4f denotes the focal length of the front lens group of the fourth lens group, F4m denotes the focal length of the middle lens group of the fourth lens group, and F4r denotes the focal length of the rear lens group of the fourth lens group.

3. The zoom lens system according to claim 2, wherein the following conditional expressions are satisfied:

$$0.025 < |(Ft \times \Phi 4f)/(F4 \times \Phi 1 \times \Phi 4m)| < 0.045$$

$$0.025 < |(F1 \times \Phi 4f)/(F23t \times \Phi 1 \times \Phi 4m)| < 0.045$$

$$0.020 < |(F1f \times \Phi 1r)/(F1m \times \Phi 1 \times \Phi 4m)| < 0.070$$

$$0.025 < |(F1r \times \Phi 4f)/(F23t \times \Phi 1r \times \Phi 4m)| < 0.045$$

where Ft denotes the focal length of the zoom lens system in the telephoto end state, Φ1r denotes the maximum effective diameter of the rear lens group of the first lens group G1r, Φ4f denotes the maximum effective diameter of the front lens group of the fourth lens group G4f, and Φ4m denotes the maximum effective diameter of the middle lens group of the fourth lens group G4m.

4. The zoom lens system according to claim 3, wherein the following conditional expression is satisfied:

$$0.0031 < 1/(Nd1r \times F1r) < 0.0039$$

where Nd1r denotes average refractive index of the lens elements in the rear lens group of the first lens group at d-line.

5. The zoom lens system according to claim 4, wherein the most object side lens in the front lens group of the first lens group is a negative meniscus lens having a convex surface facing to the object, and the following conditional expression is satisfied:

$$-0.0060 < 1/(NdL11 \times FL11) < -0.00050$$

where FL11 and NdL11 denote the focal length and refractive index at d-line of the negative meniscus lens, respectively.

6. The zoom lens system according to claim 5, wherein the front lens group of the fourth lens group consists of two positive lens elements and a negative lens element, and the rear lens group of the fourth lens group consists of two positive lens elements and a negative lens element.

7. The zoom lens system according to claim 3, wherein the most object side lens in the front lens group of the first lens group is a negative meniscus lens having a convex surface facing to the object,

and the following conditional expression is satisfied:

$$-0.0060 < 1/(NdL11 \times FL11) < -0.00050$$

where FL11 and NdL11 denote the focal length and refractive index at d-line of the negative meniscus lens, respectively.

8. The zoom lens system according to claim 2, wherein the following conditional expression is satisfied:

$$0.0031 < 1/(Nd1r \times F1r) < 0.0039$$

where Nd1r denotes average refractive index of the lens elements in the rear lens group of the first lens group at d-line.

9. The zoom lens system according to claim 8, wherein the most object side lens in the front lens group of the first lens group is a negative meniscus lens having a convex surface facing to the object, and the following conditional expression is satisfied:

$$-0.0060 < 1/(NdL11 \times FL11) < -0.00050$$

where FL11 and NdL11 denote the focal length and refractive index at d-line of the negative meniscus lens, respectively.

10. The zoom lens system according to claim 2,

wherein the most object side lens in the front lens group of the first lens group is a negative meniscus lens having a convex surface facing to the object, and the following conditional expression is satisfied:

$$-0.0060 < 1/(NdL11 \times FL11) < -0.00050$$

where FL11 and NdL11 denote the focal length and refractive index at d-line of the negative meniscus lens, respectively.

11. The zoom lens system according to claim 2, wherein the front lens group of the fourth lens group consists of two positive lens elements and a negative lens element, and the rear lens group of the fourth lens group consists of two positive lens elements and a negative lens element.

12. The zoom lens system according to claim 1, wherein the following conditional expressions are satisfied:

$$0.025 < |(Ft \times \Phi 4f)/(F4 \times \Phi 1 \times \Phi 4m)| < 0.045$$

$$0.025 < |(F1 \times \Phi 4f)/(F23t \times \Phi 1 \times \Phi 4m)| < 0.045$$

$$0.020 < |(F1f \times \Phi 1r)/(F1m \times \Phi 1 \times \Phi 4m)| < 0.070$$

$$0.025 < |(F1r \times \Phi 4f)/(F23t \times \Phi 1r \times \Phi 4m)| < 0.045$$

where Ft denotes the focal length of the zoom lens system in the telephoto end state, Φ1r denotes the maximum effective diameter of the rear lens group of

the first lens group G1r, Φ4f denotes the maximum effective diameter of the front lens group of the fourth lens group G4f, and Φ4m denotes the maximum effective diameter of the middle lens group of the fourth lens group G4m.

13. The zoom lens system according to claim 12, wherein the following conditional expression is satisfied:

$$0.0031 < 1/(Nd1r \times F1r) < 0.0039$$

where Nd1r denotes average refractive index of the lens elements in the rear lens group of the first lens group at d-line.

14. The zoom lens system according to claim 13, wherein the most object side lens in the front lens group of the first lens group is a negative meniscus lens having a convex surface facing to the object, and the following conditional expression is satisfied:

$$-0.0060 < 1/(NdL11 \times FL11) < -0.00050$$

where FL11 and NdL11 denote the focal length and refractive index at d-line of the negative meniscus lens, respectively.

15. The zoom lens system according to claim 12, wherein the most object side lens in the front lens

group of the first lens group is a negative meniscus lens having a convex surface facing to the object, and the following conditional expression is satisfied:

$$-0.0060 < 1/(NdL11 \times FL11) < -0.00050$$

where FL11 and NdL11 denote the focal length and refractive index at d-line of the negative meniscus lens, respectively.

16. The zoom lens system according to claim 12, wherein the front lens group of the fourth lens group consists of two positive lens elements and a negative lens element, and the rear lens group of the fourth lens group consists of two positive lens elements and a negative lens element.

17. The zoom lens system according to claim 1, wherein the following conditional expression is satisfied:

$$0.0031 < 1/(Nd1r \times F1r) < 0.0039$$

where Nd1r denotes average refractive index of the lens elements in the rear lens group of the first lens group at d-line.

18. The zoom lens system according to claim 17, wherein the most object side lens in the front lens group of the first lens group is a negative meniscus

lens having a convex surface facing to the object, and the following conditional expression is satisfied:

$$-0.0060 < 1/(NdL11 \times FL11) < -0.00050$$

where FL11 and NdL11 denote the focal length and refractive index at d-line of the negative meniscus lens, respectively.

19. The zoom lens system according to claim 1, wherein the most object side lens in the front lens group of the first lens group is a negative meniscus lens having a convex surface facing to the object, and the following conditional expression is satisfied:

$$-0.0060 < 1/(NdL11 \times FL11) < -0.00050$$

where FL11 and NdL11 denote the focal length and refractive index at d-line of the negative meniscus lens, respectively.

20. The zoom lens system according to claim 1, wherein the front lens group of the fourth lens group consists of two positive lens elements and a negative lens element, and the rear lens group of the fourth lens group consists of two positive lens elements and a negative lens element.

21. The zoom lens system according to claim 1,

wherein a field stop is arranged between the front lens group of the fourth lens group and the middle lens group of the fourth lens group.